

INNOVATIVE METHODOLOGY FOR DETECTION  
OF  
FRACTURE-CONTROLLED SWEET SPOTS  
IN THE  
NORTHERN APPALACHIAN BASIN

June 1, 2000-March 31, 2007

TOPICAL REPORT #8

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## **ABSTRACT**

This Topical Report (#8 of 9) consists of the figures 3.7-1 to (and including) 3.7-9b (and appropriate figure captions) that accompany the Final Technical Progress Report entitled: “Innovative Methodology for Detection of Fracture-Controlled Sweet Spots in the Northern Appalachian Basin” for DOE/NETL Award DE-AC26-00NT40698.

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## **FIGURE CAPTIONS FOR TOPICAL REPORT #8**

### **FIGURE 3.7-1. Total Magnetic Intensity Map.**

Map produced by PRJ

### **FIGURE 3.7-2. Reduced to Pole (RTP) Magnetic Map.**

Produced by PRJ

### **FIGURE 3.7-3. Horizontal Gradient of RTP Magnetism (HG).**

Produced by PRJ. EBKL = East Branch Keuka Lake gradient.

### **FIGURE 3.7-4. Vertical Gradient of RTP Magnetism (VG).**

Produced by PRJ

### **FIGURE 3.7-5. Second Vertical Derivative of RTP Aeromagnetism (SVD).**

Produced by PRJ

### **FIGURE 3.7-6a. Linear Feature Analyses of RTP Aeromagnetism (LFA).**

Produced by PRJ

### **FIGURE 3.7-6b. Linear Feature Analyses of RTP Aeromagnetism (LFA) with Lakes and Selected Gas Fields.**

T/BR fields are the Glodes Corners Road Field (GC) and the Muck Farm Field (MF). Extent of the gas fields is that for 2001. Wayne-Dundee is related to an Alleghanian anticline.

### **FIGURE 3.7-6c. Linear Feature Analyses of RTP Aeromagnetism (LFA) with Lakes and Selected Gas Fields.**

T/BR fields are the Glodes Corners Road Field (GC) and the Muck Farm Field (MF). Purple blob indicates the extent of T/BR fields in 2004.

### **FIGURE 3.7-7. PRJ Interpretation of Gradients in the Aeromagnetic Field**

### **FIGURE 3.7-8. RTP Magnetism and Gas Fields.**

Gas fields are the same as in Figure 3.7-6b and 3.7-6c.

### **FIGURE 3.7-9a. Bouguer Gravity and T/Br Fields.**

Gravity contour interval = 5 mgal. Blues are relatively low. T/BR fields same as in Figure 3.7-6b and 3.7-6c. Gravity from Jacobi (2002).

### **FIGURE 3.7-9b. Bouguer Gravity, RTP Magnetism and T/Br Fields.**

Gravity contour interval = 5 mgal. Blue contours are relatively low. T/BR fields same as in Figure 3.7-6b and 3.7-6c. Gravity from Jacobi (2002).

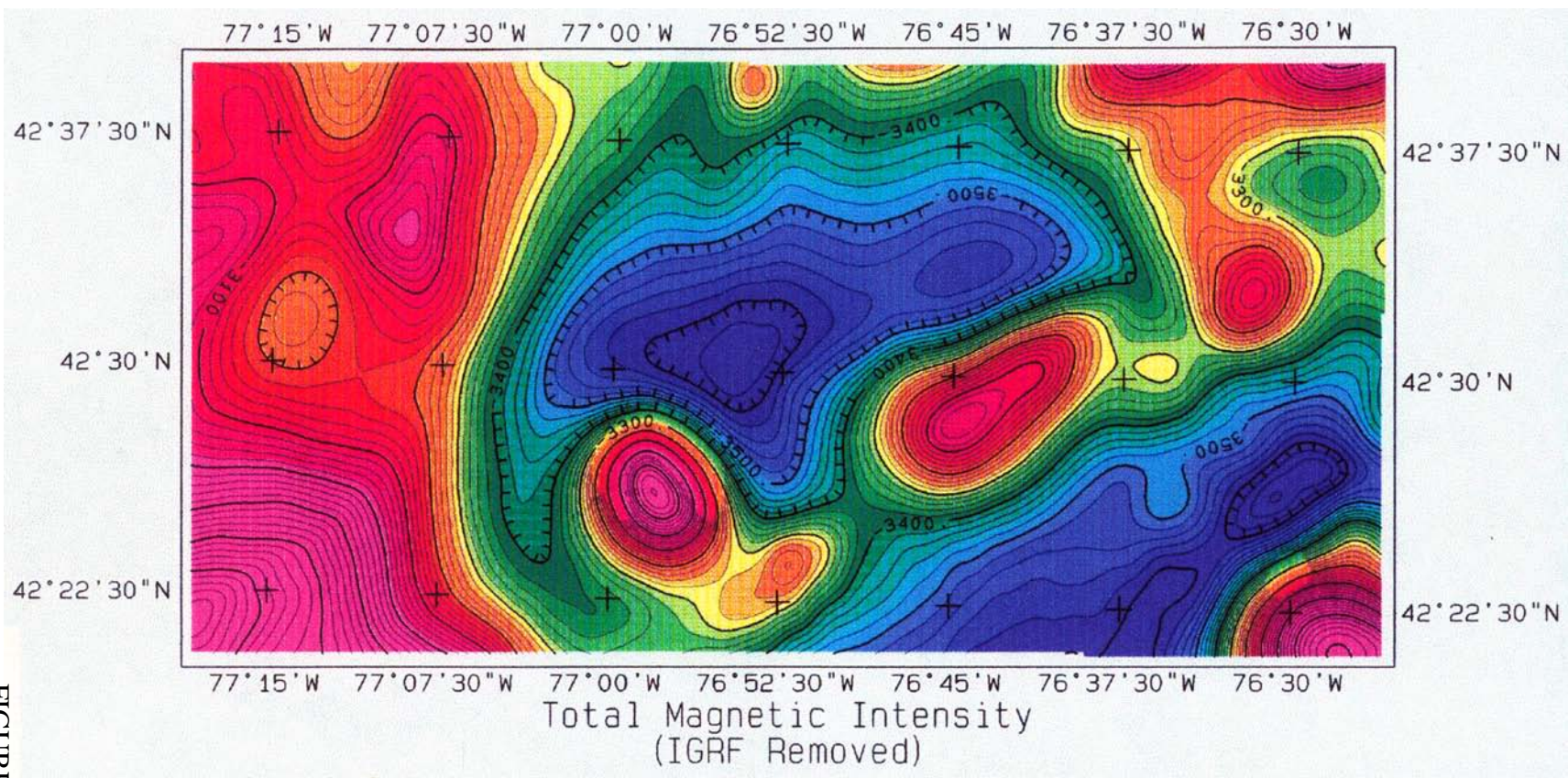


FIGURE 3.7-1



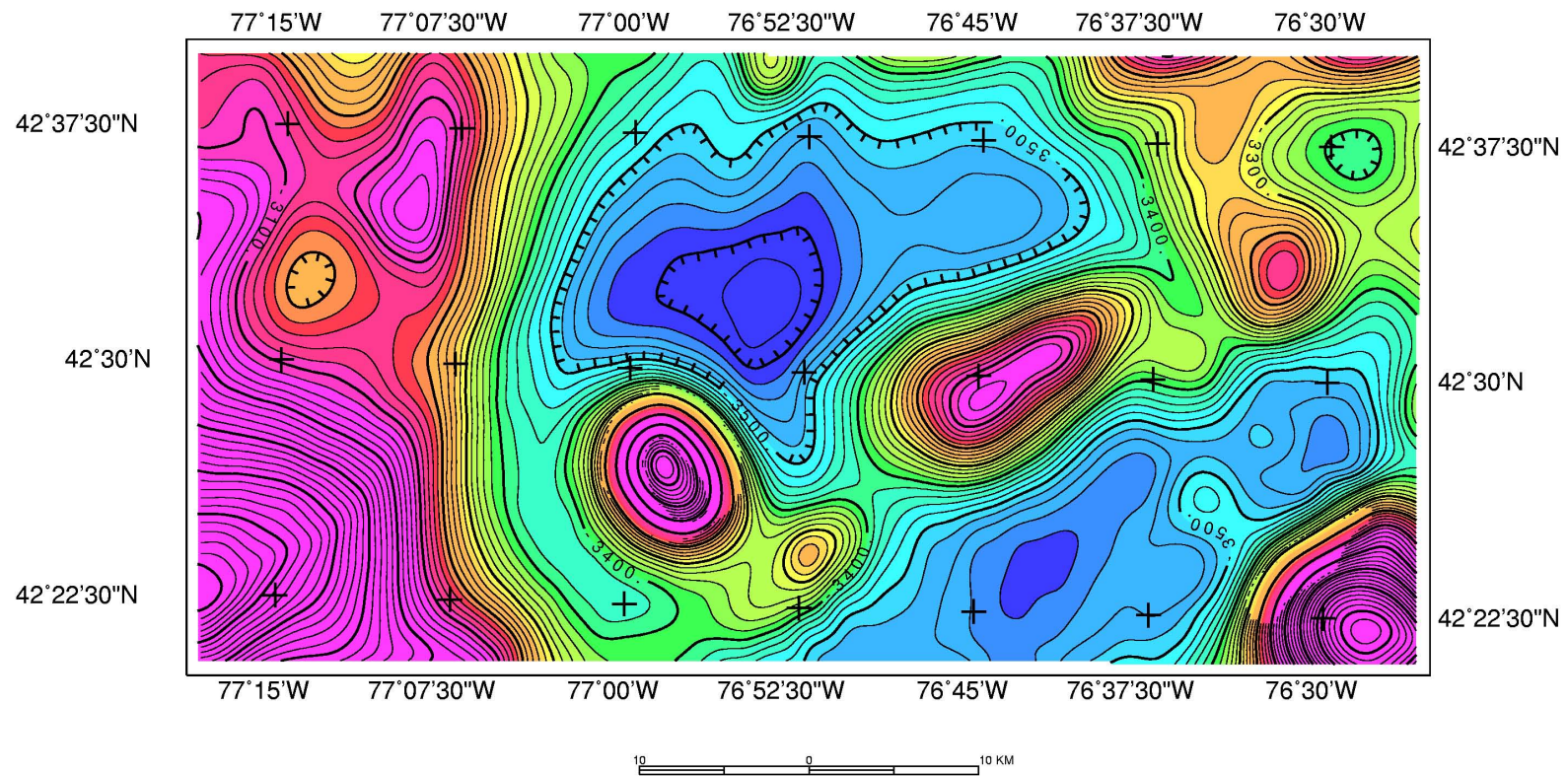


FIGURE 3.7-2

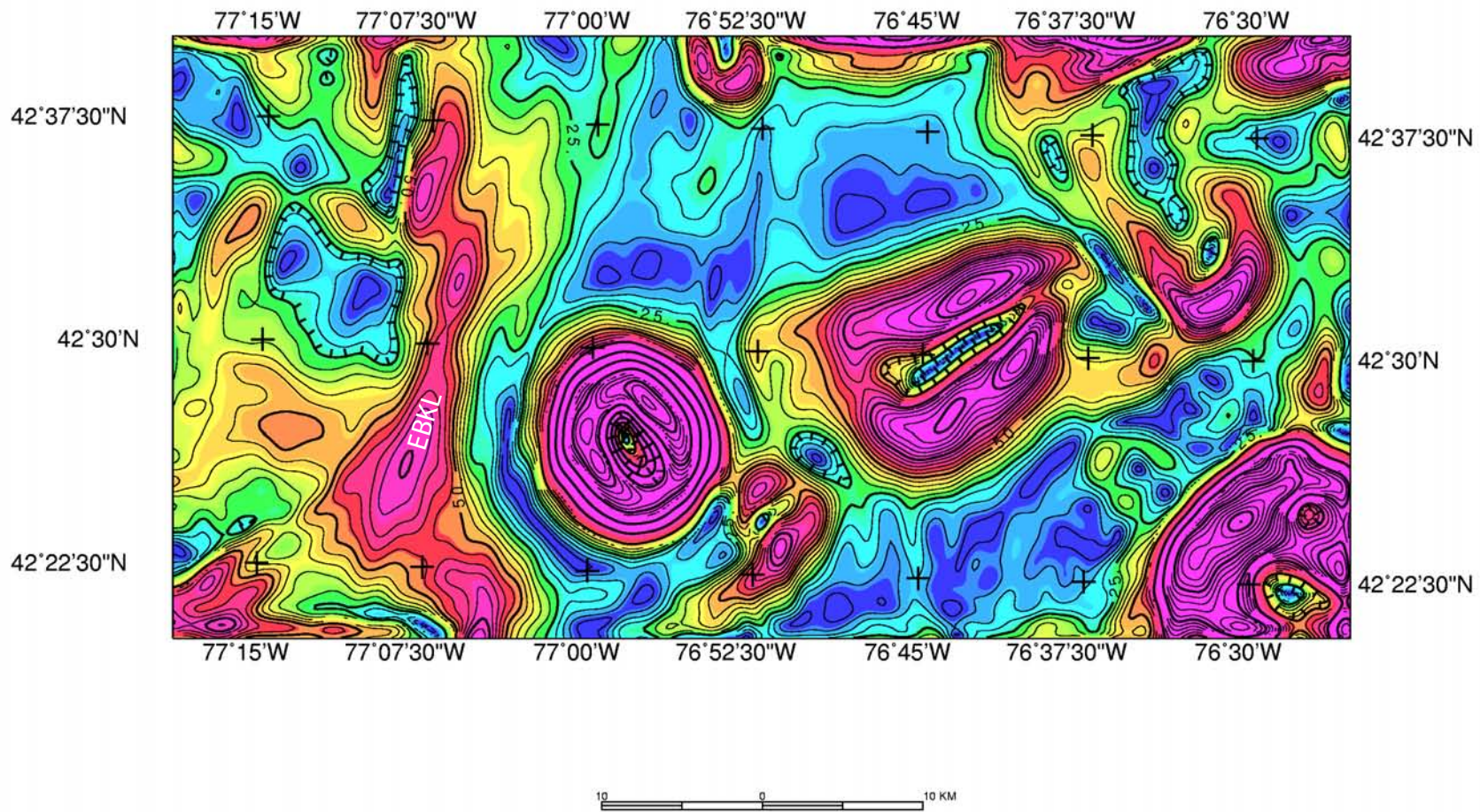


FIGURE 3.7-3



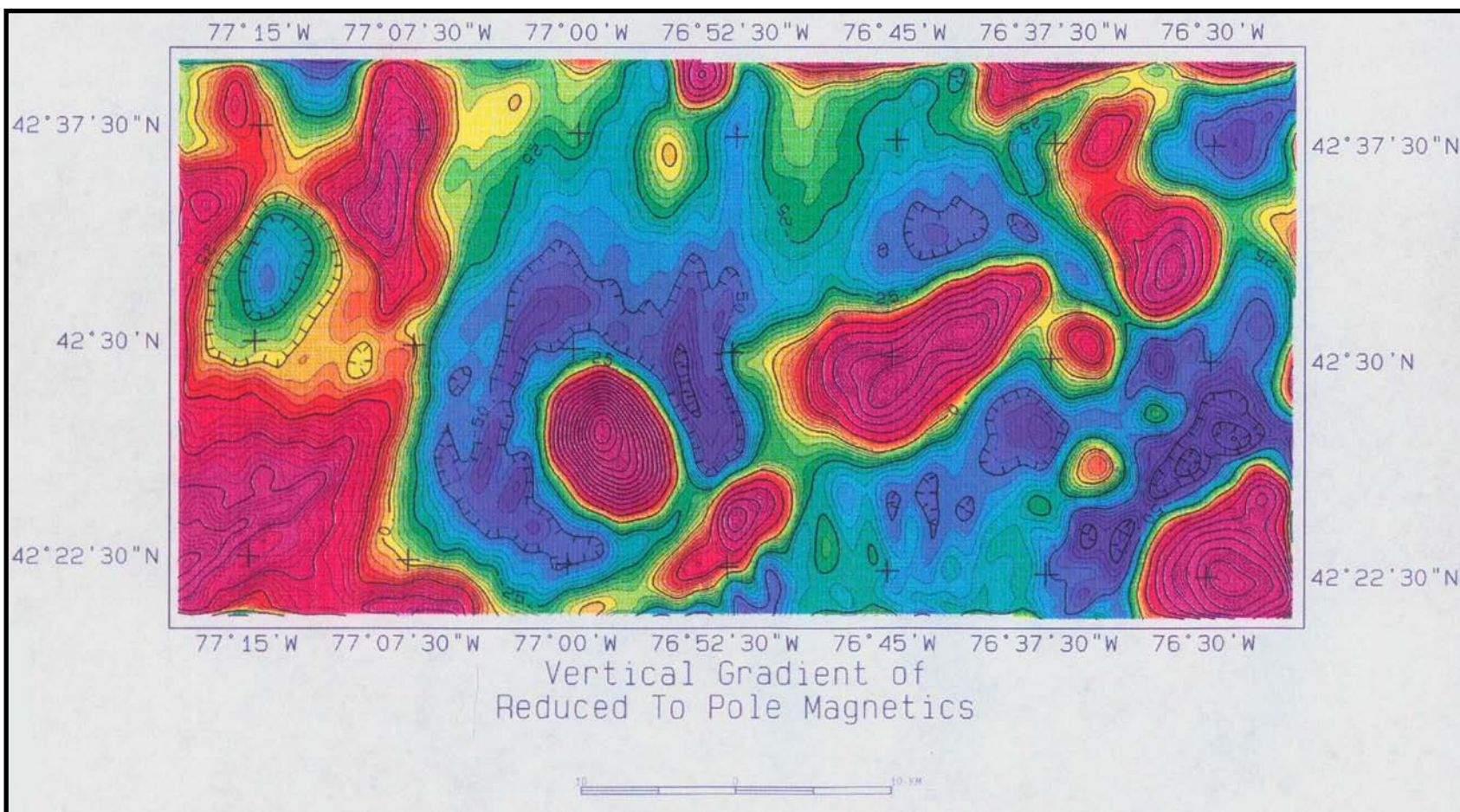


FIGURE 3.7-4



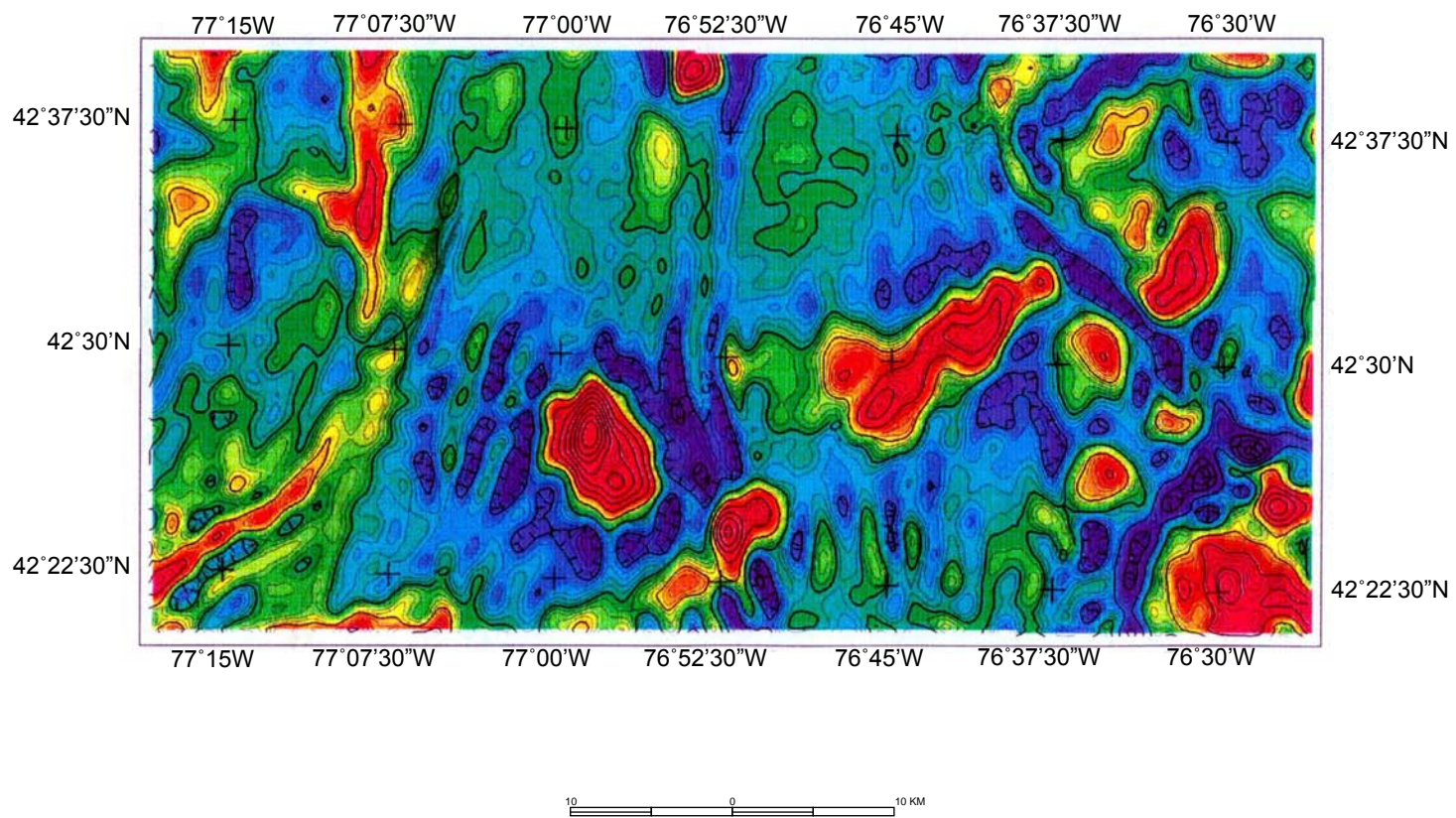


FIGURE 3.7-5

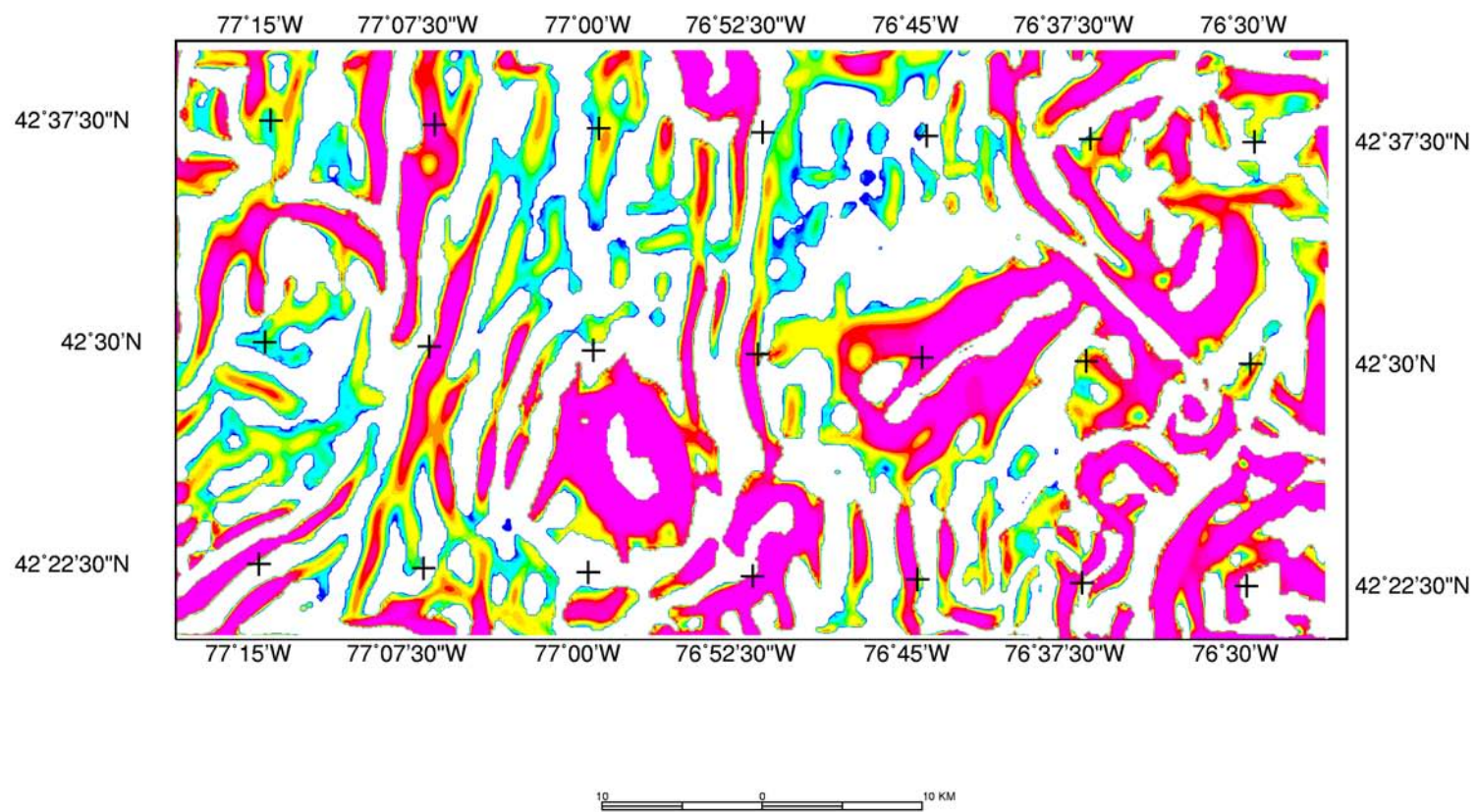


FIGURE 3.7-6a



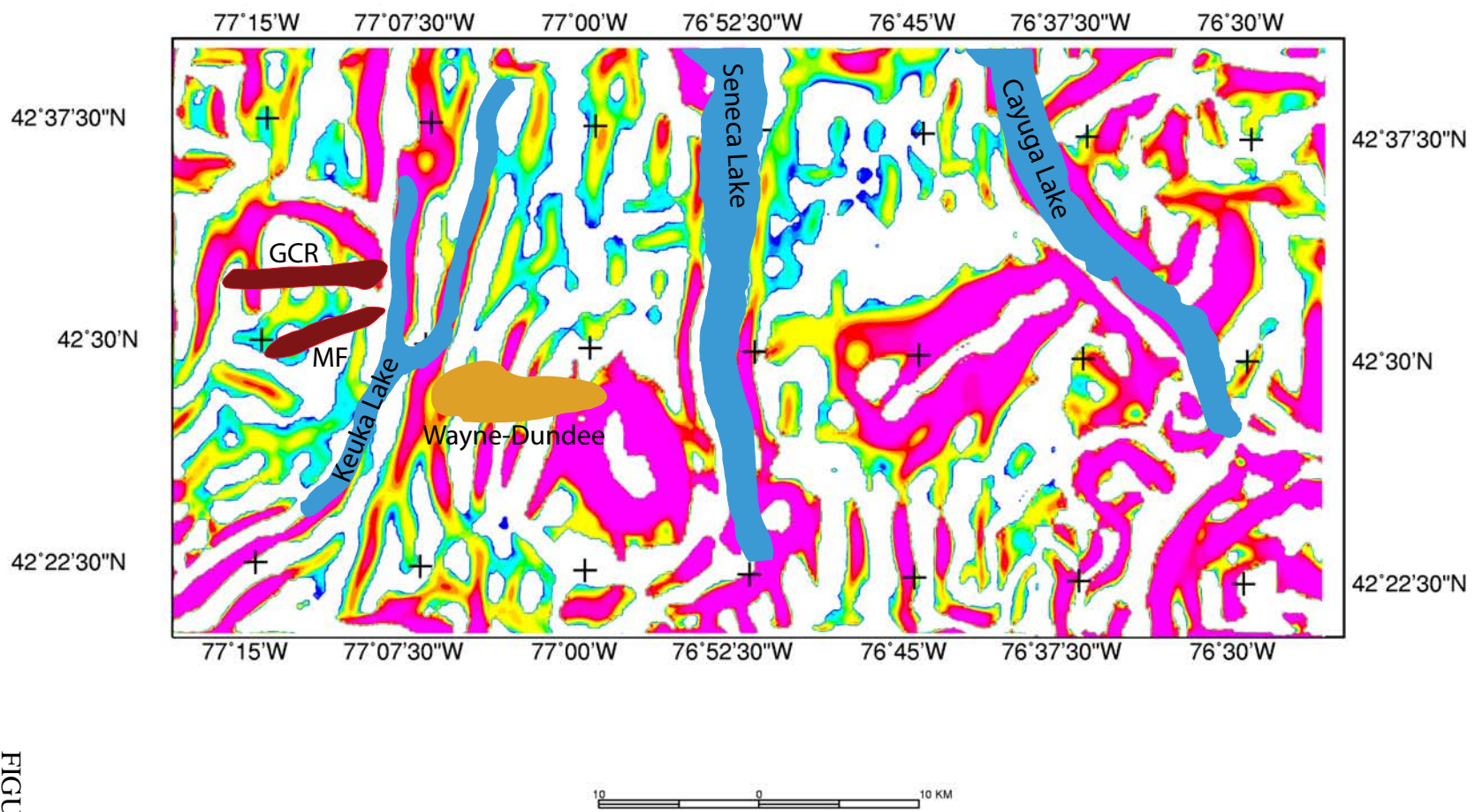


FIGURE 3.7-6b

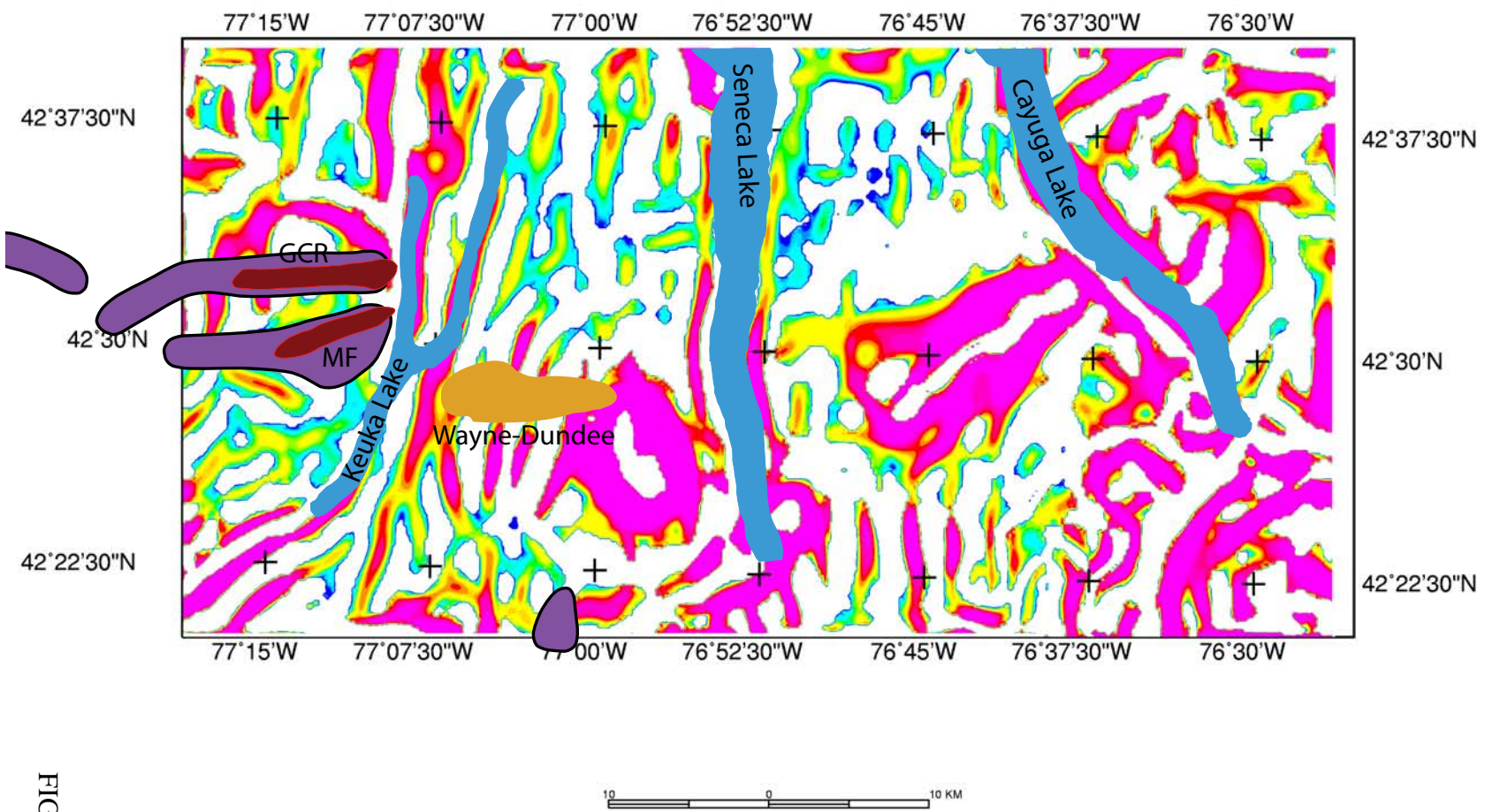


FIGURE 3.7-6c

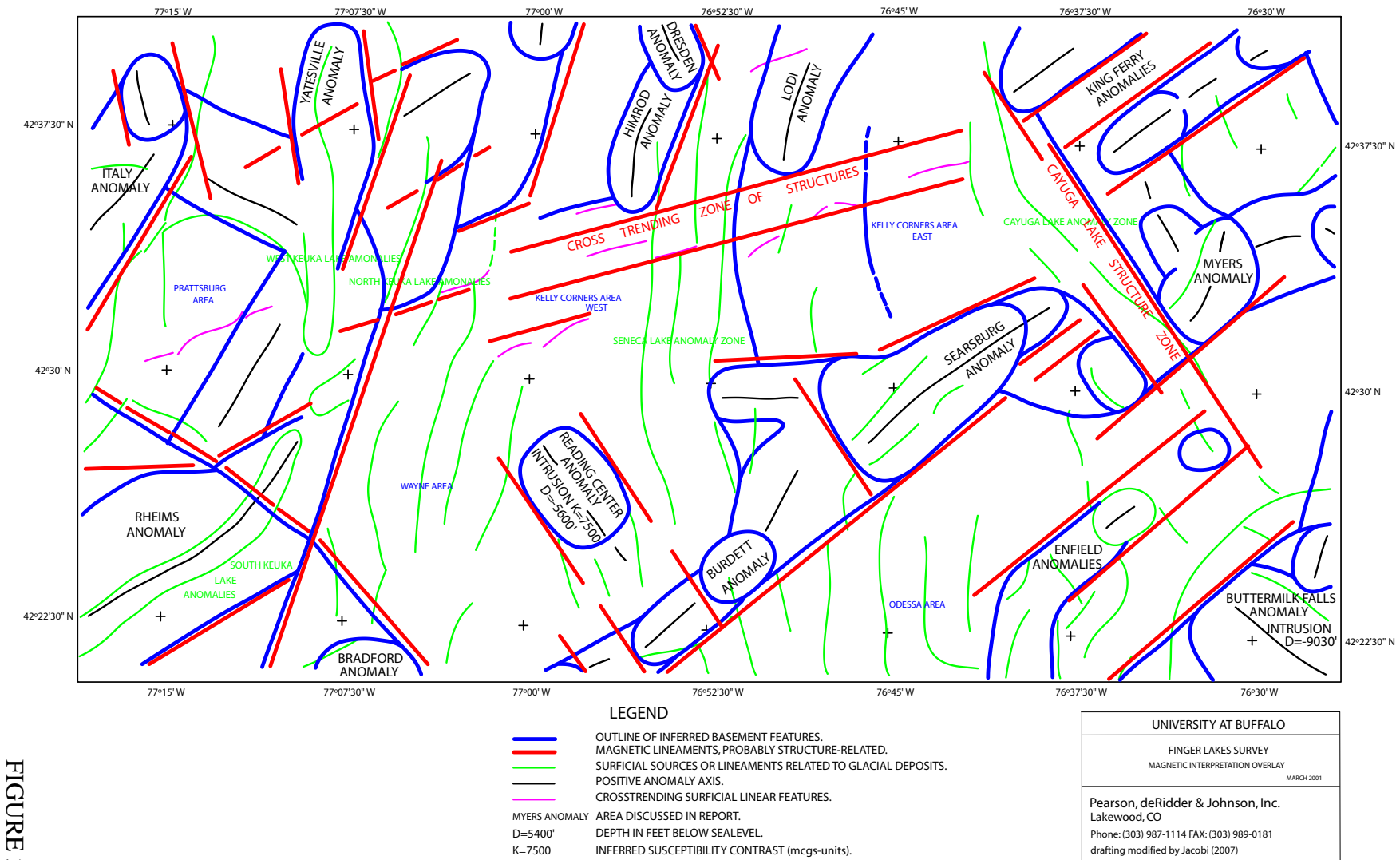


FIGURE 3.7-7



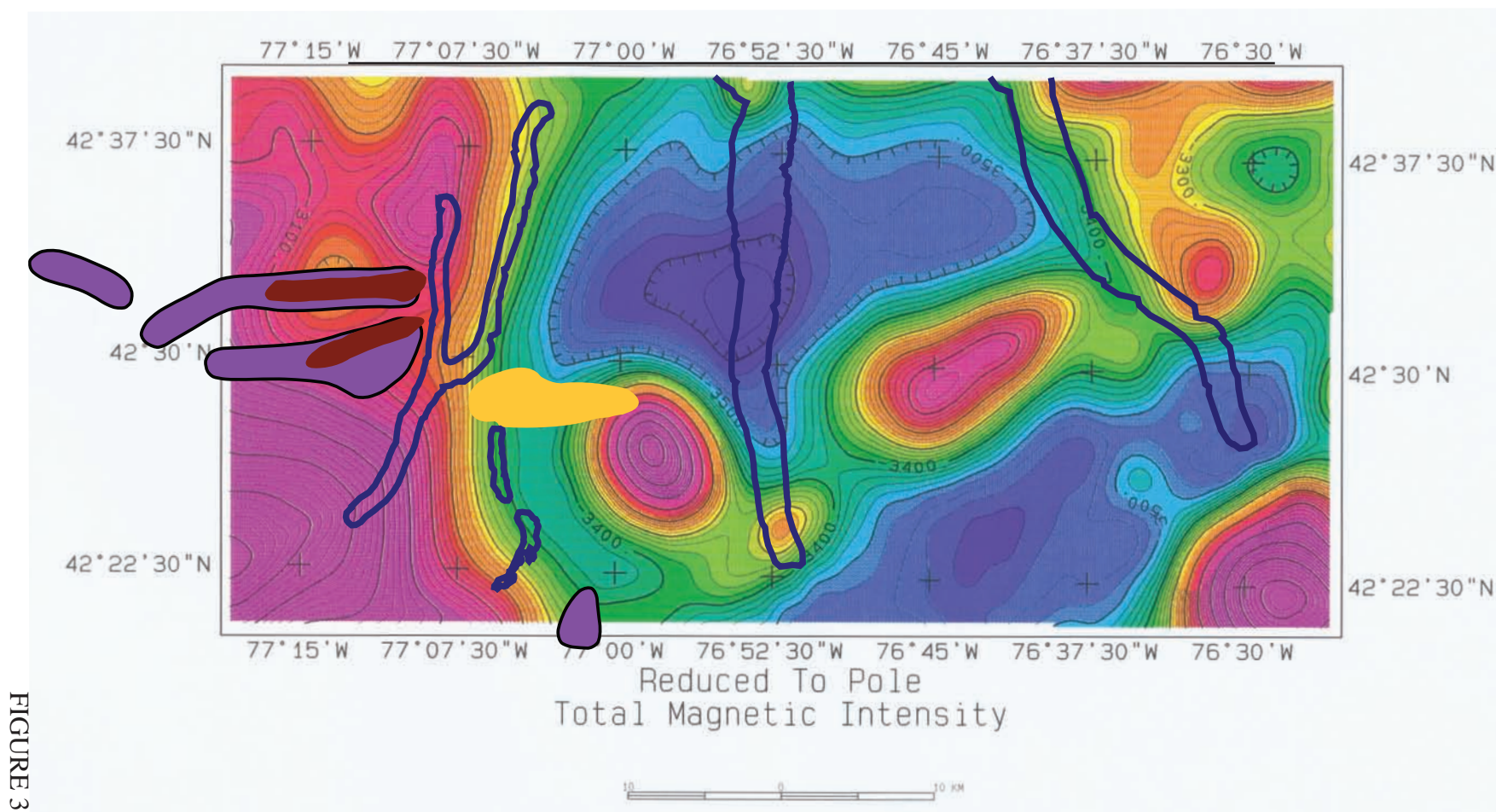


FIGURE 3.7-8

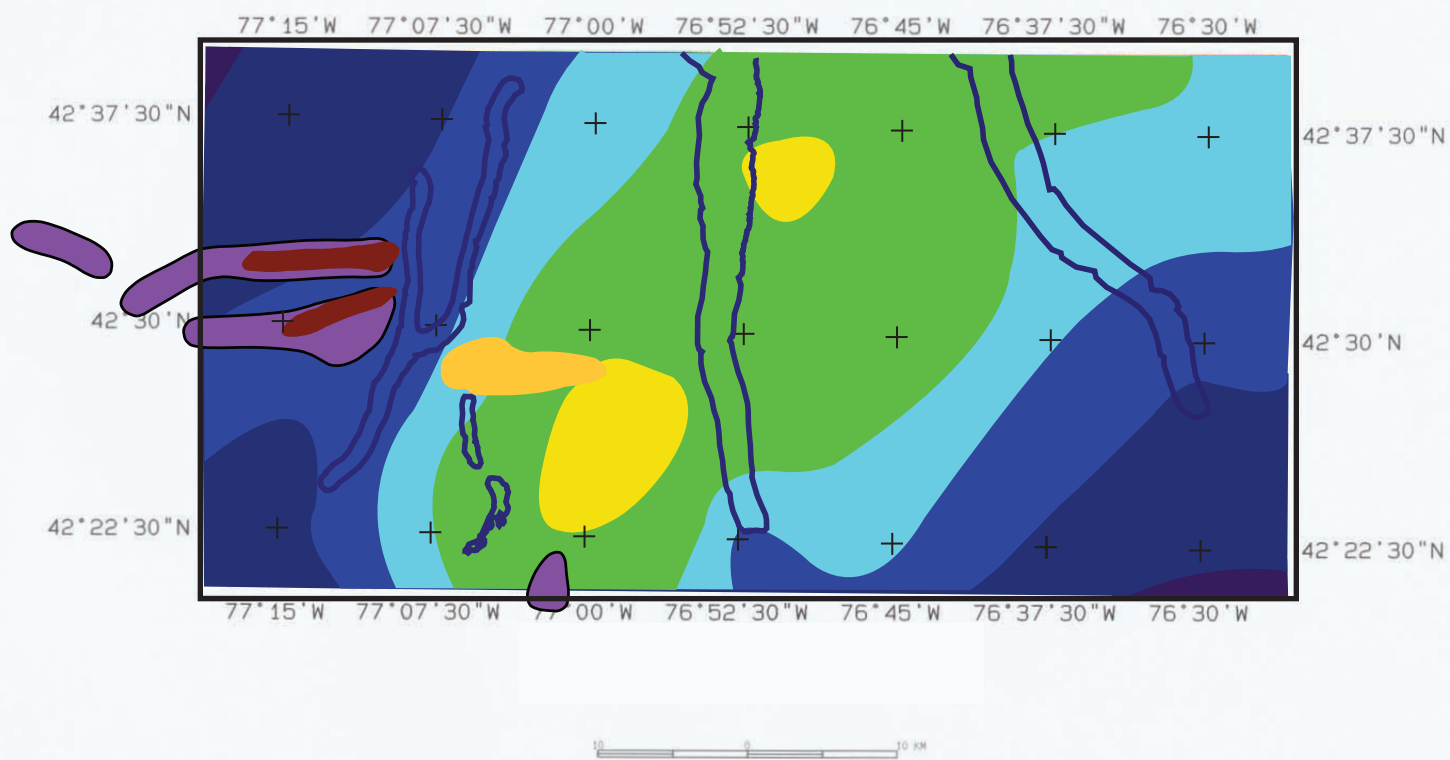


FIGURE 3.7-9a

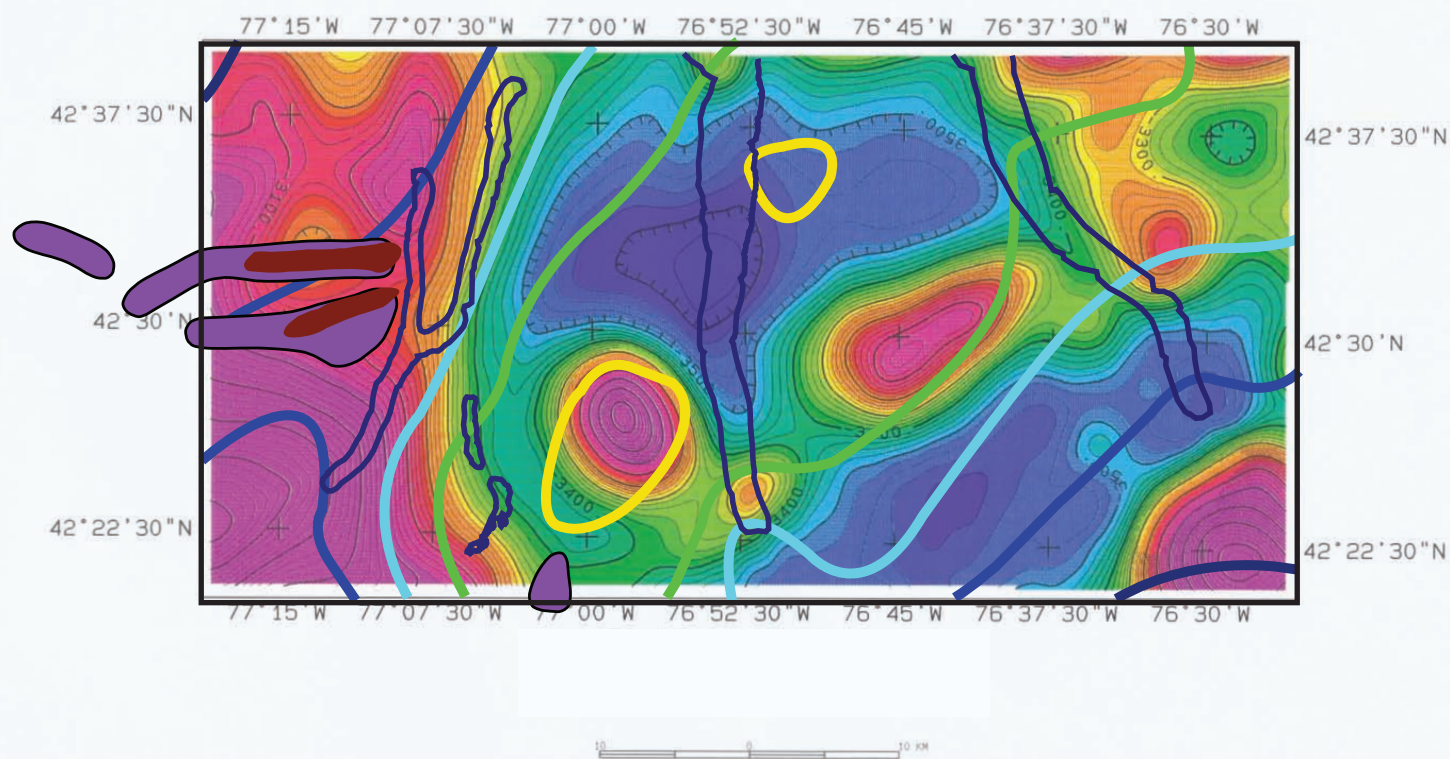


FIGURE 3.7-9b